

Claims

1. An examination apparatus for use in selecting a patient for whom an oxygen therapy is effective among patients having a sleep respiratory disturbance, the apparatus having an output part for displaying or printing both of: (A) transition of respiratory airflow; and (B) transition of enhanced state of sympathetic nerve, of the subject patient during sleeping.

2. The examination apparatus according to claim 1 which comprises a unit for determining an electrocardiogram of the subject patient, and an analysis unit for analyzing the enhanced state of sympathetic nerve based on the determined electrocardiogram wave form with a heart rate variability analytical procedure.

3. The examination apparatus according to claim 2 which comprises a sensor for detecting presence/absence or magnitude of respiratory airflow of the subject patient, and an analysis unit for analyzing synchronization of transition of the respiratory state in a Cheyne-Stokes respiratory symptom in which apnea and respiratory states are repeated with transition of abnormal enhancement of sympathetic nerve.

4. A therapeutic system which comprises (1) an examination apparatus for use in selecting a patient for whom an oxygen therapy is effective among patients having a sleep

respiratory disturbance, and/or use in ascertaining a therapeutic effect of the oxygen therapy, and (2) a supplying apparatus of an oxygen-enriched gas for respiration for the purpose of carrying out the oxygen therapy, wherein an output part for displaying or printing both of transition of respiratory airflow and transition of enhanced state of sympathetic nerve of the subject patient during sleeping is provided to the examination apparatus.

5. The therapeutic system according to claim 4 wherein the supplying apparatus of an oxygen-enriched gas for respiration is constituted to allow flow rate of the oxygen-enriched gas for respiration to be regulatable within a predetermined range so that the flow rate becomes the amount prescribed on the basis of the result displayed or printed by the output part of the examination apparatus.

6. A method of selecting a patient for whom an oxygen therapy is effective among patients having a sleep respiratory disturbance which comprises: determining respiratory airflow and enhanced state of sympathetic nerve of a patient; and selecting a patient who exhibits both results that the determined state of sympathetic nerve is an enhanced state, and transition of enhanced state of sympathetic nerve is found in conjunction with transition of respiratory airflow.

7. The method of selecting a patient for whom an oxygen therapy is effective according to claim 6 wherein the

step of determining respiratory airflow of the patient detects a Cheyne-Stokes respiratory symptom in which apnea wave form and respiration wave form are repeated.

8. The method of selecting a patient for whom an oxygen therapy is effective according to claim 7 wherein enhancement of sympathetic nerve occurs in conjunction with occurrence of the respiration wave form in a Cheyne-Stokes respiratory symptom of the patient.

9. The method of selecting a patient for whom an oxygen therapy is effective according to any one of claims 6 to 8 wherein the step of determining the enhanced state of sympathetic nerve comprises determining electrocardiogram wave form of the patient, and the enhanced state of sympathetic nerve is analyzed based on the determined electrocardiogram wave form by a heart rate variability analytical procedure.

10. A method of selecting a patient for whom an oxygen therapy is effective among patients having a sleep respiratory disturbance which comprises: determining arterial oxygen saturation of a patient; determining respiratory airflow and enhanced state of sympathetic nerve of the patient; and selecting a patient who exhibits the results that an arterial oxygen saturation is not higher than a predetermined threshold value and the patient is in an enhanced state of sympathetic nerve, and transition of enhanced state of sympathetic nerve is found in conjunction with transition of respiratory airflow.

11. A therapeutic method for sleep respiratory disturbance which comprises: determining respiratory airflow and enhanced state of sympathetic nerve of a patient having a sleep respiratory disturbance; selecting a patient who exhibits both results that a state of sympathetic nerve is an enhanced state, and transition of enhanced state of sympathetic nerve is found in conjunction with transition of respiratory airflow; and administering oxygen to the patient.

12. The therapeutic method for sleep respiratory disturbance according to claim 11 wherein the respiratory airflow of the patient exhibits a Cheyne-Stokes respiratory symptom in which apnea wave form and respiration wave form are repeated, and oxygen is administered to a patient in whom occurrence of enhancement of sympathetic nerve is found in conjunction with occurrence of respiration wave form in the Cheyne-Stokes respiratory symptom.

13. A therapeutic method for sleep respiratory disturbance which comprises: determining arterial oxygen saturation of a patient having a sleep respiratory disturbance; determining respiratory airflow and enhanced state of sympathetic nerve of the patient; selecting a patient who exhibits the results that an arterial oxygen saturation is not higher than a predetermined threshold value and the patient is in an enhanced state of sympathetic nerve, and transition of enhanced state of sympathetic nerve is found in conjunction

with transition of respiratory airflow; and administering oxygen to the patient.